FAX RECEIVED
FEB 27 2006
OFFICE OF PETITIONS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re United States Patent Application of:		**Docket No.:**	**4241-198-CON**
Applicants:	**BARETZ, Bruce et al.**	**Conf. No.:**	**2836**
Application No.:	**10/623,198**	**Art Unit:**	**2814**
Date Filed:	**July 18, 2003**	**Examiner:**	**Thao X. Le**
Title:	**SOLID STATE WHITE LIGHT EMITTER AND DISPLAY USING SAME**	**Customer No.:**	**23448**

EXPRESS MAIL CERTIFICATE

I hereby certify that I am mailing the attached documents to the Commissioner for Patents on the date specified, in an envelope addressed to Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 and Express Mailed under the provisions of 37 CFR 1.10

Candace White

February 27, 2006
Date

EO 008 112 382 US
Express Mail Label Number

COPY

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT, AND COPY OF PETITION FOR WITHDRAWAL FROM ISSUE, AND RCE, AS FAX FILED ON FEBRUARY 27, 2006 IN U.S. PATENT APPLICATION NO. 10/623,198

Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to the requirements of 37 C.F.R. §1.56, a reference has just been located by applicants' assignee, which is desired to be considered by the examiner, and made of record in the file of the

subject application. Inasmuch as the issue fee in the application was paid on September 2, 2005, a Petition for Withdrawal from Issue is being fax filed same date herewith under the provisions of 37 CFR §1.313 (c)(2), together with a Request for Continued Examination, to accommodate such consideration of the reference. This Supplemental Disclosure Statement is being filed by Express Mail due to the length of the reference.

The reference, "Gallium Nitride Light-Emitting Diodes," a dissertation submitted in November, 1973 by Herbert Paul Maruska to the Department of Materials Science and Engineering, and the Committee on Graduate Studies of Stanford University, in partial fulfillment of the requirements for the degree of Doctor of Philosophy, is listed on the attached Form PTO/SB/08A. A copy of the reference (referred to hereinafter as "Maruska") is enclosed.

To expedite the examiner's consideration of Maruska in the further proceedings involving this application, a discussion of Maruska is set out below.

Disclosure of Maruska

Maruska is a Ph.D. thesis documenting the synthesis and characterization of hetero-epitaxial gallium nitride (GaN) films, with particular reference to light emission. Thin films of GaN doped with zinc and magnesium were made using chemical vapor deposition techniques and were reported to emit violet light. The films were characterized by optical, scanning electron, and transmission electron microscopy and measurements of various electrical and optical properties of the films.

The objective of the Ph.D. thesis work is stated in the paragraph bridging pages 23 and 24 of the thesis, following the heading "Purpose of This Work," and is set forth below in its entirety:

> "Throughout the years a good source of blue electroluminescence has not been found, and no source of violent light has been reported at all. Recently a new semiconductor, the III-V compound GaN, has become the object of a number of studies. The large bandgap makes it an attractive material for luminescence throughout the visible spectrum, like ZnS, but unlike ZnS it is a good n-type conductor. Quite recently green and blue light emission has been reported from m-i-s structures in GaN [PANKOVE, MILLER, and BERKEYHEISER, 1971; PANKOVE, MILLER, and BERKEYHEISER, 1972]. The insulating (i) region was produced by doping with Zn. Since we have learned from an early report on GaN [MARUSKA and TIETJEN, 1969] that Mg doping will also cause the material to become insulating, and that Mg may form, a shallower acceptor level than Zn (it is to this dopant level to which the luminescent recombination evidently occurs), we have undertaken the following study of GaN light-emitting diodes, with special emphasis on Mg doping. It is expected that the results obtained should be applicable to GaN:Zn LED's, as well as LED's in other materials. It is hoped that the Mg-doped m-i-s diodes will give violet electroluminescence. Although we cannot expect as high efficiencies as found in p-n homojunction diodes, we still think the LED's will be of great interest, because no other violet lights are available. If such violet lights can be made, it should then be possible to obtain various other colors by down-converting with phosphors which will only be a one step process. Thus it should be possible to produce all the colors with one material, GaN. The major reason for working with GaN rather than a more established luminescent material such as ZnS is that almost no work has been done on GaN, and so this should be a fruitful topic of research."
>
> -Maruska, page 23, line 19 to page 24, line 22

Cumulative Character of Maruska in Relation to References of Record

The disclosure in Maruska is cumulative of art of record in this application and previously considered by the examiner in connection with his decision to allow the application (by Notice of Allowance dated July 14, 2005).

Japanese Published Patent Application 05-152609 of Yoshiaki Tadatsu and Shuji Nakamura (Nichia Chemical Industries, Ltd.) was made of record by Information Disclosure Statement dated July 18, 2003 (Reference AL), and this reference states in paragraph [0005], lines, 6-11 thereof:

> "Also the first practical LED using a gallium nitride type compound semiconductor with a pn junction has been announced (Ouyou Busuri, 60, no. 2, pp. 163-166 (1991)). The LED with a gallium nitride type compound semiconductor pn junction emits light with a major peak in the vicinity of 430 nm. An additional peak occurs in the ultraviolet in the vicinity of 370 nm. However, this LED is deficient in that visual brightness is poor due to light emission that has a nearly violet coloration."

This Reference AL[1] discloses a gallium nitride LED in combination with a fluorescent dye or pigment, and states in paragraph [0006], in the second sentence, that "[T]he goal of the present invention [of Tadatsu et al.] is to improve the brightness and visibility of a light emitting diode..." and to this end, Tadatsu et al. use "a fluorescent dye or fluorescent pigment, which is excited by light emitted by this gallium nitride compound semiconductor" (paragraph [0007], lines 3-4) so that the "fluorescent colorant is excited by light in the vicinity of 420-440 nm and emits light with peak brightness near 480 nm" (paragraph [0008], lines 10-11), on the basis of which Tadatsu et al. conclude that "[I]t becomes possible to carry out conversion to various wavelengths by the selection of the fluorescent pigment" (paragraph [0009], lines 9-11).

It therefore is apparent from the foregoing analysis that Maruska is cumulative of art already of record in this application.

---

[1] also cited in parent Application No. 08/621,397 (now issued as US Patent 6,600,175) and discussed therein, in the Amendment filed June 18, 1999.

In addition to its cumulative character to art already of record, it is to be noted that Maruska fails to disclose any generation of white light, as required by applicants' pending claims, and that Maruska contains no disclosure from which one of ordinary skill in the art could transform the speculations of such reference into an operative device.[2]

It therefore is respectfully requested that the examiner consider the Maruska reference and the foregoing remarks, and that the examiner re-confirm the patentability of the previously allowed claims, by re-issue of a Notice of Allowance for this application.

Respectfully submitted,

Steven J. Hultquist
Reg. No. 28,021
Attorney for Applicants

INTELLECTUAL PROPERTY/
TECHNOLOGY LAW
Phone: (919) 419-9350
Fax: (919) 419-9354
Attorney File No.: 4241-198-CON

The USPTO is hereby authorized to charge any deficiency or credit any overpayment of fees properly payable for the entry of this document to Deposit Account No. 08-3284

[2] For example, Maruska fails to disclose any phosphors that would or could be useful for light generation, reflecting the generally speculative and non-enabling character of the quoted disclosure at page 24 of the thesis ("[I]t is hoped...," Maruska, page 24, line 12; "we cannot expect...," Maruska, lines 13-14;"[I]f such violet lights can be made, it should then be possible to obtain various other colors...," Maruska, page 24, lines 16-17; "it should be possible...," Maruska, page 24, lines 18-19). It is elemental law that a non-enabling reference is not competent prior art. *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1354, 65 USPQ2d 1385, 1416 (Fed. Cir. 2003).

PTO/SB/08b (07-05)
Approved for use through 06/30/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

	Complete If Known
Application Number	10/623,198
Filing Date	7/18/2003
First Named Inventor	BARETZ, Bruce et al.
Art Unit	2814
Examiner Name	LE, Thao X.
Attorney Docket Number	4241-198-CON

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		MARUSKA, H.P., Gallium nitride light-emitting diodes (dissertation), Dissertation Submitted to Stanford University, November 1973	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
[1]Applicant's unique citation designation number (optional). [2]Applicant is to place a check mark here if English language Translation is attached.
This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.